

### **REMARKS**

Claims 1-23 are pending in the application. In the Office Action, the Examiner rejected claims 1-13 under 35 U.S.C. § 112, first paragraph for allegedly reciting subject matter not sufficiently described in the specification; and rejected claims 1-23 under 35 U.S.C. § 103(a) as allegedly not being patentable over U.S. Patent No. 5,530,875 to *Wach* in view of U.S. Patent No. 6,807,595 to *Khan et al.* ("*Khan*").

#### **Rejection Under 35 U.S.C. § 112, First Paragraph**

Applicant respectfully traverses the rejection of claims 1-13 under Section 112, first paragraph for allegedly failing to have support in the specification for the phrase "based on the assigned priority of the interrupt inputs" recited in claim 1. The Examiner has failed to fulfill his initial burden of presenting, by a preponderance of evidence, why a person skilled in the art would not recognize a description of the invention defined by the claims in Applicant's disclosure. (*Wertheim*, 541 F.2d at 263, 191 USPQ at 97; MPEP 2163.04).

In the Amendment filed March 3, 2008, Applicant pointed out that support for the above-identified claim feature may be found in the specification at, for example, page 9, paragraph 0030. The Office Action quotes this paragraph in support of the rejection under Section 112, but does not explain why the Examiner believes it to be deficient. The Office Action merely states, "the only portion of the specification describing the use of 'priority' according to Applicant's claimed invention is paragraph [0030]." This statement does not provide sufficient evidence to support an assertion that a person skilled in the art would not recognize the above-identified feature of Applicant's claims. The Office Action, therefore, does not set forth a *prima facie* case for rejecting claims 1-13 under Section 112, first paragraph. Accordingly, Applicant requests that this rejection be withdrawn.

The Examiner's issue appears to be that paragraph 0030 of Applicant's specification does not literally state "...based on the assigned priority of the interrupt inputs," as recited in claim 1. However, this is not the standard of review. There is no requirement that the

subject matter of the claim be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement. (*Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985); M.P.E.P. § 2163.02.) The courts have held that an objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." (*In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989); M.P.E.P. § 2163.02.)

Paragraph 0030 of Applicant's published specification states, "... where the IC (interrupt controller) 340 has assigned priorities to each of the interrupt inputs INT-01 through INT-N. The priority of an interrupt source 310 can be changed ... by setting the associated control bits to enable requests to be mapped only to the interrupt input having the desired priority level" (emphasis added). Accordingly, the priorities of an interrupt source 310 can be changed by selectively providing the source to one of interrupt inputs INT-01 to INT-N based on the input's assigned priority. Paragraph 0030, therefore, more than reasonably supports "selectively enabling interrupt requests from each of the plurality of interrupt sources to be received at one or more of the plurality of interrupt inputs based on the assigned priorities of the interrupt inputs," as recited in claim 1, for example. Thus, the rejection of claims 1-13 under Section 112 is also improper for this reason and Applicant requests that it be withdrawn.

#### Rejection Under 35 U.S.C. § 103(a)

Applicant traverses the Examiner's rejection of claim 1 under Section 103. *Wach* and *Khan* cannot support a *prima facie* case for rejecting claim 1 because the purported combination does not disclose or suggest the subject matter recited in the claim. (See M.P.E.P. § 2142.) The Examiner concedes that *Wach* does not disclose or suggest, "selectively enabling interrupt requests from each of the plurality of interrupt sources to be received at one or more of the plurality of interrupt inputs based on the assigned priorities of

the interrupt inputs," as recited in claim 1. (Office Action, p. 9) *Khan* does not overcome this deficiency.

*Khan* is relied on for disclosing an interrupt controller that receives interrupt requests directed toward a microprocessor and prioritizes the interrupt requests on behalf of the microprocessor. (Office Action, p. 9; ; *Khan*, col. 3:29-33.) However, *Khan* says nothing with regard to "assigning priorities to each of the plurality of interrupt inputs" of an interrupt controller. Accordingly, *Khan* also cannot be considered to disclose or suggest, "selectively enabling interrupt requests ... based on the assigned priorities of the interrupt inputs," (emphasis added), as recited in claim 1. Because neither *Wach* nor *Khan* disclose or suggest the above-identified features of claim 1, taken individually or in combination, these references cannot support a rejection of claim 1 under Section 103.

In addition, the rejection of claim 1 under Section 103 is improper because the Examiner has failed to make the findings necessary to establish a *prima facie* case of obviousness. The Office Action states that it would be obvious for one of ordinary skill in the art to combine *Wach* and *Khan* to arrive at the subject matter of Applicant's claims because the references are from the same field of endeavor and that *Khan* teaches using an interrupt controller to reduce internal resources. (Office Action, pp. 9-10.) This rationale is insufficient.

The purported combination appears to be based on a rationale that *Wach* and *Khan* can be combined according to known methods to predictably result in Applicant's claimed subject matter. To reject the claims under this rationale, M.P.E.P. § 2142(a) states that the Examiner must articulate the following:

- (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;
- (2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely performs the same function as it does separately;

- (3) a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable; and
- (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

As already set forth above, the Examiner has failed to establish (1) "that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference." Accordingly, the rejection under Section 103 is improper for at least this reason.

In addition, the Examiner has not articulated, at least, (2) "that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely performs the same function as it does separately," and (3) "that one of ordinary skill in the art would have recognized that the results of the combination were predictable." Thus, the rejection under Section 103 is improper for these reasons as well.

Furthermore, *Wach* and *Khan* cannot be properly combined to support a rejection of claim 1 under Section 103. The Examiner asserts that *Wach*'s interrupt sources, locations GF and group flag register 44 correspond to Applicant's claimed "interrupt sources," "interrupt inputs" and "interrupt controller," respectively. (Office Action, p. 3-6, 13.) As noted above, *Khan* is relied on for its alleged disclosure of interrupt controller that receives interrupt requests directed toward a microprocessor and prioritizes the interrupt requests on behalf of the microprocessor. (Office Action, p. 9 *Khan*, col. 3:29-33.) It appears that the Examiner believes an interrupt controller, such as disclosed by *Khan*, could be substituted for group flag register 44. Applicant disagrees. Replacing *Wach*'s group flag register 44 with an interrupt controller would change the principle operation of *Wach*'s interrupt manager 38. As such, the purported combination is improper and cannot support a rejection under

Section 103. (*See In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959); M.P.E.P. 2143.02(V).)

In one embodiment disclosed by *Wach*, interrupt manger 38 uses group flag register 44 to group interrupt sources to allow more efficient determination of interrupt sources by processor 14. (*Wach*, col. 6:1-4.) That is, processor 13 reads group flag register 44 to identify which group of interrupt sources includes a current interrupt. (*Id.* col. 6:21-35.) As such, the number of checks processor 14 must perform is reduced. (*Id.*) In a different embodiment, interrupt manger 38 uses group flag register 44 to mask interrupt sources from processor 14. (*Wach*, cols. 10:55-11:10.) In this case, processor 14 would receive an interrupt request signal from group flag register 44 whenever any of locations GF are set. To mask an interrupt source, processor 14 sends a negative signal to the corresponding register PL in association registers 46. However, if group flag register 44 was replaced with an interrupt controller, as asserted by the Examiner, *Wach's* interrupt manager 38 could no longer function for its principle operations of grouping or masking interrupt sources. Thus, the purported combination is improper and cannot support a rejection under Section 103. (*See In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959); M.P.E.P. 2143.02(V).)

Furthermore, the stated purpose of *Khan's* interrupt controller's is to prioritize interrupt requests on behalf of a microprocessor to conserve its internal resources. (*Khan*, col. 3:29-37) But in *Wach*, processor 14 controls the priority of interrupt sources via programmable association registers 46. (*Wach*, col. 5:53-61.) Accordingly, an interrupt controller disclosed by *Khan* that handles interrupt prioritization on behalf of processor 14, when used in *Wach's* interrupt manager 38, would at best control programmable association registers 46. Simply substituting an interrupt controller for group flag register 44, as asserted by the Examiner, would be redundant of the function of association registers 46 disclosed by *Wach*. Accordingly, one of ordinary skill in the art would have no reason to substitute an interrupt controller for group flag register 44, as asserted by the Examiner. (Office Action,

pp. 9-10.) Indeed, Applicant respectfully submits that the Examiner's only reason for making the purported combination of *Wach* and *Khan* is based on knowledge obtained from Applicant's own disclosure. (*See, e.g.*, Applicant's FIG. 3.) Such reliance constitutes improper hindsight reconstruction that cannot support a *prima facie* case under Section 103. (*See* M.P.E.P. § 2142.)

Moreover, for the reasons already given above, even if the alleged substitution of *Khan's* interrupt controller for *Wach's* group flag register 44 could be properly made, which Applicant does not concede, the purported combination would still fail to disclose or suggest Applicant's claimed invention, because none of the applied references disclose or suggest "assigning priorities to each of the plurality of interrupt inputs by the interrupt controller," as recited in claim 1.

For all the reasons above, the Examiner's rejection of claim 1 under Section 103 is improper. Applicant, therefore requests that rejection of claim 1 be withdrawn and the claim allowed.

Independent claims 7, 14, 21 and 23 recite similar subject matter to that recited in claim 1. Thus, these claims are allowable for similar reasons to those set forth above with regard to claim 1.

Dependent claims 2-6, 8-13, 15-20 and 22 are allowable at least due to their corresponding dependence from independent claims 1, 7, 14, 21 and 23.

### **Conclusion**

In light of the remarks above, Applicant respectfully requests allowance of the pending claims. If additional fees are required for any reason, please charge Deposit Account No. 02-4800 the necessary amount.

Respectfully submitted,

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